NATIONAL INFRASTRUCTURE ADVISORY COUNCIL

June 11, 2024 Quarterly Business Meeting
2:00 PM – 5:00 PM ET

CALL TO ORDER AND OPENING REMARKS

Mr. Jonathan Dunn, Cybersecurity and Infrastructure Security Agency (CISA) Designated Federal Officer (DFO) for the National Infrastructure Advisory Council (NIAC), called the June 11, 2024, NIAC Quarterly Business Meeting (QBM) to order. He stated that the NIAC is registered under the Federal Register docket number CISA-2023-0012 and is a federal advisory committee, governed by the Federal Advisory Committee Act (FACA). As such, the meeting was open to the public and was recorded. He confirmed that the NIAC did not receive any requests for public comment. Following the roll call of both in-person members and those participating virtually via WebEx, Mr. Dunn turned the meeting over to the NIAC Chair, Mr. Adebayo Ogunlesi, Global Infrastructure Partners, who welcomed the four new NIAC members as well as continued NIAC members.

Mr. Ogunlesi provided a brief overview of the March NIAC QBM, where members heard a briefing from Maryland Governor Wes Moore, who thanked the NIAC for its ongoing work and expressed gratitude for the Inflation Reduction Act (IRA). In today's meeting, Mr. Ogunlesi shared that members could expect a keynote address by Mr. Russell Strickland, Maryland Secretary for Emergency Response and President of the National Emergency Management Association (NEMA). Mr. Ogunlesi shared that there will also be a deliberation and vote on the transformer production report, titled *Addressing the Critical Shortage of Power Transformers to Ensure Reliability of the U.S. Grid*.

Mr. Nitin Natarajan, Deputy Director, CISA, welcomed the NIAC members and thanked them for their work on behalf of the nation's critical infrastructure. He expressed excitement to hear about the NIAC subcommittees' progress, as well as the deliberation and vote on the transformer production report. Mr. Natarajan noted the importance of transformers to our nation's electric grid and that many people rely on them on a day-to-day basis. The United States (U.S.) is facing challenges due to aging transformers and the need to replace them and meet the demand of a constantly evolving electrical grid. Mr. Natarajan underscored the importance of restoring the domestic transformer manufacturing industry, as the U.S. has come to depend on transformers manufactured outside the country, which creates a national security risk.

Beyond manufacturing, Mr. Natarajan said system resilience is also a critical area of focus for the electrical grid and all critical infrastructure sectors. He recalled the devastating collapse of the Francis Scott Key Bridge in Baltimore, Maryland in March of this year, when a cargo ship lost power and hit one of the bridge's support columns. Mr. Natarajan continued that CISA, and the Department of Homeland Security (DHS) were engaged with the recovery efforts, and he is looking forward to hearing from Secretary Strickland on the event's impact on the community and recovery efforts.

Mr. Natarajan spoke to the Maryland Department of Transportation's (MDOT) estimates of business revenue, personal income, and the thousands of jobs that will be negatively affected by

the port closure. He continued that resilient, critical infrastructure is one of CISA's highest priorities and added that CISA recently announced the Shields Ready campaign, which focuses on the intersection between resilience and preparedness.

Ms. Caitlin Durkovich, Deputy Assistant to the President and Deputy Homeland Security Advisor for Resilience and Response, National Security Council, subsequently provided her opening remarks and, on behalf of President Biden and Dr. Liz Sherwood-Randall, Assistant to the President and Homeland Security Advisor, thanked the NIAC members for their continued work on ensuring the resilience of our country's infrastructure. Ms. Durkovich shared that the anticipated update to the *Presidential Policy Directive on Critical Infrastructure Security and Resilience* (PPD-21) was published in April, titled *National Security Memorandum on Critical Infrastructure Security and Resilience* (NSM-22). She emphasized that NSM-22 was highly influenced by the recommendations made by the NIAC, and the memorandum is being received well by stakeholders. In the update, the White House recognizes that times have changed since PPD-21 was published. We are now living in an all-hazards environment, which includes the climate crisis and an evolving geopolitical threat environment considering Russia's invasion of Ukraine and the upcoming "decisive decade," fielding threats of China invading Taiwan. She described several key policy shifts of NSM-22, which include the following:

1. President Biden gave a directive to the intelligence community to collect, produce, and share intelligence and information with owners and operators of critical infrastructure.
2. The Sector Risk Management Agencies (SRMA) will establish a plan to elevate minimum security and resilience requirements.
3. It formalizes the new CISA structure, establishing the Secretary of Homeland Security as the leader for security and resilience. The Secretary shared preliminary guidance with each sector to identify their vulnerabilities, whether they should focus on artificial intelligence (AI), cyberattacks, or China, etc.
4. It codifies SRMAs as the experts in the government.

There is a 270-day implementation plan, which gives a runway to ensure implementation before the next Presidential term. Sectors are engaging to understand and mitigate vulnerabilities. Ms. Durkovich added that it is an honor to work with the Maryland Governor and Secretary.

KEYNOTE SPEAKER

Ms. Durkovich introduced Secretary Strickland, Maryland Secretary for Emergency Response and President of NEMA, who thanked NIAC members for inviting him to speak. He also thanked the NIAC Disaster Response and Resiliency Subcommittee for inviting him to speak as a briefer for one of their meetings, where he described in detail the Maryland Executive Order for a State of Preparedness.

Secretary Strickland provided updates to the tragedy that occurred in Baltimore the morning of March 26, when the Francis Scott Key Bridge collapsed due to a cargo ship accidentally hitting a support beam. While the MDOT police were alerted to the ship's mayday call and they were effectively able to stop more traffic from entering the bridge, eight workers on the bridge were not able to get off in-time, resulting in six of whom tragically lost their lives.

Secretary Strickland emphasized the importance of all components involved in the response and recovery but highlighted the collaboration between the Coast Guard and the U.S. Army Corps of Engineers (USACE). USACE shared information and updates readily with the Governor of Maryland and all entities involved, each step of the way. Because of the successful response, the emergency channel was re-opened within 30 days of the collapse. When brainstorming how best to move the large cargo ship out of the channel, USACE calculated that the wave action had to be less than 4.9 knots to safely return the ship to port. They attached a tugboat in the front and a tugboat behind to simultaneously direct and slow the large ship. On behalf of the State of Maryland, Secretary Strickland thanked all involved in the recovery process. Maryland is continuing to help businesses and workers in the Port of Baltimore community. They are now pushing to rebuild the bridge, as it is a major connection of interstate along the East Coast, and it provides the best and safest route to transport hazardous cargo. Secretary Strickland noted that there is currently a request for proposal out for bridge construction to begin soon.

Secretary Strickland then discussed his role as President of NEMA, which celebrates its 50th anniversary this year. NEMA is a nonpartisan, nonprofit 501(c)(3) association dedicated to enhancing public safety by improving the nation's ability to prepare for, respond to, and recover from all emergencies, disasters, and threats to our nation's security. It contains emergency management directors from all 50 states, eight U.S. territories, and the District of Columbia. NEMA focuses on the four Cs: coordination, collaboration, cooperation, and communication.

Secretary Strickland shared that the field of emergency management is growing – it no longer solely focuses on natural disasters, but now encompasses nontraditional disasters as well, such as the opioid crisis, the Key Bridge collapse, and homelessness, to name a few. He noted that their greatest partner in emergency management is the Federal Emergency Management Agency (FEMA), but FEMA is not responsible for first response; there is responsibility at the state level to handle disasters. He said that the states look to FEMA to funnel requests for assistance, but FEMA remains at the federal level. Immediately after 9/11, there was a big focus on protecting critical infrastructure. That focus remains, but it has expanded to an all-hazards approach. Lastly, Secretary Strickland noted that the State of Maryland does have a private sector committee that is committed to working with private and nonprofit organizations.

Mr. Michael Hayford, formerly NCR Corporation, asked if Secretary Strickland has a recommendation for disaster response that varies state to state. Secretary Strickland replied that there is a need to empower the local levels and ensure that they have adequate resources to plan for risk. He said that no two states operate the same way or face all of the same challenges. FEMA should work with the states to help the local municipalities.

In response to a question, Secretary Strickland said that one of his biggest concerns is often workforce, which is one of the three areas of focus currently for NEMA. He would also like more investment in preparedness and to minimize siloed lanes due to four-year election cycles.

REPORT PRESENTATION: *ADDRESSING THE CRITICAL SHORTAGE OF POWER TRANSFORMERS TO ENSURE RELIABILITY OF THE U.S. GRID*

Mr. Ogunlesi turned the meeting over to Mr. Gil Quiniones, ComEd and Chair of the Transformer Production Subcommittee, to give an overview of the report, titled *Addressing the*

Critical Shortage of Power Transformers to Ensure Reliability of the U.S. Grid. Mr. Quiniones first gave a background on the subcommittee, noting the study topic emerged from President Biden's request following the briefing on the NIAC's *Managing the Infrastructure Challenges of Increasing Electrification* report in 2023. Mr. Quiniones spoke to the high demand and power shortages the utility industry has been facing and the national security concerns regarding the U.S.'s reliance on foreign power transformers. Over the next 25 years, transformer demand is expected to grow by 25 percent, and many existing transformers will need to be replaced. Mr. Quiniones then read out the seven recommendations identified in the report:

1. Expand domestic capacity through federal policies and funding incentives.
2. Increase collaboration to achieve greater accuracy in transformer demand forecasting.
3. Encourage commitments between transformer suppliers and the sectors driving demand.
4. Establish a reserve of transformers.
5. Promote collaboration to standardize the transformer design and reduce complexity.
6. Coordinate incentives for supply, efficiency standards, and trade policy.
7. Grow the workforce pipeline through public and academic partnerships.

Mr. Quiniones emphasized the need to move quickly on the recommendations to ease the risk to national security. Ms. Connie Lau, Hawaiian Electric Industries, thanked Mr. Quiniones for his leadership, and she thanked President Biden expressing priority to the issue of transformer production. Mr. Chris Wiernicki asked if the recommendations are in an order of priority, which Mr. Quiniones responded that they are not, except that the first recommendation is prioritized above the rest. Several members observed that standardization seems to be the root of most of the problems, and Mr. Pasquale Romano, ChargePoint, asked if the report should emphasize that more. Mr. Quiniones replied that standardizing transformers by 30 to 40 percent would have the same successful impact, and work is already being done in that area.

Mr. Randy Kreus, Customer Care Network and Subcommittee subject matter expert, discussed the differences between large power transformers and small transformers, or distribution transformers. Small distribution transformers are produced more domestically. Large power transformers are mostly produced outside the U.S., and the market is dominated by big players worldwide, including Zignox and Hitachi GE. On the distribution side, there are at least 10 manufacturers in the U.S., but they tend to be smaller and therefore less capital-intensive. He emphasized the importance of reducing complexity at both the manufacturing and utility levels. The government will have to give incentives to encourage large producers to manufacture domestically.

Ms. Durkovich asked how different a small distribution-transformer production line is from a large one, and whether a small distribution transformer production facility could be retrofitted to produce large power transformers. Mr. Kreus replied that the same factory would not be able to produce both types of transformers. In addition, Mr. Quiniones noted the difference in workforce between the two products as well. Large transformers require more skilled workers, which is a challenge in the local workforce today.

Mr. Kreus added that most components of the transformer can be produced domestically, but the core electrical steel will be difficult to produce domestically. There is currently one amorphous steel manufacturer in South Carolina that acquires most of their raw materials from Japan. For

much of the grain-oriented electrical steel, there is only one producer in the U.S., in Zanesville, Ohio. Both electrical steels used in domestic transformers are sole-sourced. For this reason, the U.S. is too dependent on foreign suppliers.

Mr. Ogunlesi asked what the market failure is for signing long-term transformer manufacturing contracts. Mr. Quiniones replied that a main obstacle is having the skilled workforce. He cited one transformer manufacturing plant that had to import workers to produce the transformers in their plant domestically. Mr. Kreus added that people underestimated how fast states would move on decarbonization – already, 23 states have committed to decarbonization by 2045, which is 53 percent of the U.S. population. He said another market failure is due to insufficient supply chain, especially after the COVID-19 pandemic. In addition, the average power transformer in the U.S. is 38-years old. There is currently massive demand for the same amount of capacity. The Inflation Reduction Act made accelerating certain renewable energy projects more attractive, so there was even more demand in the supply chain. In the report, the NIAC recommended better forecasting, longer-term commitments, and standardization, which would help build a more consistent demand and supply.

Mr. Romano recommended giving users the option to prepay for electric vehicle charging capacity. Ms. Audrey Zibelman noted that it will be important to help utilities accommodate capacity standardization and regulatory actions. Mr. Jorge Ramirez, GCM Grosvenor, questioned whether data centers for AI place an additional burden on the supply chain since they can be built anywhere. Mr. Martin Adams, Los Angeles Department of Water and Power, asked if voltage or configuration will be the biggest issue when upgrading facilities, and Mr. Kreus responded that both are issues, since all utilities have older systems. However, the Department of Energy steps in to modernize elements instead of requiring that each is built from scratch.

Mr. Ogunlesi motioned for the NIAC to vote on the report, and all NIAC members accepted.

SUBCOMMITTEE UPDATES

Mr. Ogunlesi invited Dr. Conrad Vial, Sutter Health, to speak on behalf of the Promoting Infrastructural Health Subcommittee. Dr. Vial, Subcommittee Chair, thanked the subcommittee members, provided updates on the subcommittee, and shared the topics that the subcommittee has been briefed on so far. He also expressed that the four subcommittee chairs had met to discuss the interrelationship between the subcommittees' topics. They will continue to foster the relationships between subcommittees and share relevant materials. Dr. Vial shared that the subcommittee is researching resilient infrastructure within the paradigm of health and has begun the process of connecting the emerging themes to use cases. The subcommittee also aims to revisit three recommendations from the NIAC's 2023 *Cross-Sector Collaboration to Protect Critical Infrastructure* report that focus on the topics of interdependency, standards, and cross-sector drilling. The subcommittee will also be looking into the roles of predictive analytics and investors in resilient infrastructure.

Mr. Ogunlesi invited Ms. Madhu Beriwal, Innovative Emergency Management, to speak on behalf of the Disaster Response and Resiliency Subcommittee. Ms. Beriwal, Subcommittee Chair, thanked the subcommittee members and provided updates on the subcommittee. She noted that the subcommittee has decided to break the topic up into two pieces, focusing on disaster

response first and resiliency second. Ms. Beriwal also listed the topics the subcommittee has received briefings on so far. The subcommittee has identified areas of particular focus, which include survivor programs, capacity building, and frameworks. She called back to the topic of standardization, initially raised by Mr. Quiniones, and said that there are components in disaster response that must be standardized, simplified, and streamlined, because the existing system is too complex.

Mr. Hayford added that the number of incidents occurring is projected to accelerate exponentially, according to analytics charts that the subcommittee has seen, and climate change is driving much of that acceleration. He also noted that FEMA's scope today is much wider than what it was originally established to do. Lastly, he added that funding is another large issue in disaster response and resiliency, for both FEMA and local communities.

Ms. Durkovich asked if the subcommittee has factored in international emergency response practices. Ms. Beriwal said that the subcommittee has not received a briefing on international practices. However, the subcommittee did discuss how to fold in emergent groups into local disaster response, since there is no current mechanism to include them into the Emergency Operations Center or into the Unified Command. However, Mr. Mike Byrne, formerly FEMA and subcommittee member, mentioned that the United Nations achieves this practice effectively through the cluster approach.

Mr. Natarajan thanked the subcommittees for their attention to standardization. He wanted to differentiate between "handshake" standardization, where the standards are mutually agreed upon within the industry, and a more prescriptive standardization. He also wanted the subcommittees to consider what is governed by national or international standards bodies and the influence the U.S. government can have. In the cyber arena, Mr. Natarajan said that the roles of the U.S. government and the international standards-setting bodies are to ensure those who are not like-minded do not take a leading role in the standards. He asked the subcommittees to identify the elements that need more standardization across the nation (or even the world), and which are the more "handshake" standards.

Ms. Beriwal said that Mr. Natarajan's point will become very important for the Disaster Response and Resiliency Subcommittee on the resiliency side when the subcommittee discusses building codes and infrastructure resiliency codes. She also mentioned that the subcommittee has discussed standardization of doctrine – how emergency responders organize under the Incident Command System and how training occurs. These topics are covered under the Department of Defense's (DoD) Doctrinal Organization, Training, Material, Leadership, Personnel, and Facilities (DOTMLPF).

Ms. Durkovich posed that resources spent investing in the FEMA Reserve Force could be better spent in cultivating a full-time disaster workforce in the communities that have recurring yearly disasters. Currently, there are reserve members who move from disaster to disaster without much staying power in a community to finish the long-term work. In order to rebuild more resiliently, and even address some systemic issues that existed before the disaster, having the power of the federal government in a community is necessary. Ms. Durkovich also asked the subcommittee to consider how the government currently handles staffing for disasters, and how to improve that

system. Ms. Beriwal agreed that staffing is a major issue, especially considering burnout from Federal employees who are pulled from other agencies and move from disaster to disaster.

Mr. Alan Armstrong, Williams Inc., resonated with the fact that the problem will not be addressed on a case-by-case level. However, emergency managers can establish continuous improvement by setting up orientation processes and training. Through continuous improvement, teams can learn from each disaster. Ms. Beriwal agreed that the capacity-building cycle is important. However, with more capacity comes the need for more funding. The grant program for state and local governments, the Emergency Management Performance Grant (EMPG), has been declining in funds. More money is needed at the local level, which is more difficult to supply because it must be divided between the jurisdictions.

Mr. Ramirez suggested enlisting local people that know how to plug into emergency response systems during a disaster. In Hurricane Katrina, he said people from all over the country came to help through the Coast Guard, and they are all trained the same way. Instead of paying local people to be available, they could be incentivized through a tax credit if they show up for a disaster, knowing that they have been trained and are in the system. These local people would include former professionals from the police, military, and fire, as well as former nurses and doctors. These people would be able to be on the ground during the first stage of a disaster. He emphasized that there are many people at the local level who have the skills to be able to help and be first responders. Ms. Beriwal responded that the subcommittee will discuss the workforce issue the following week. She noted that the subcommittee will also be briefed by the DoD and CISA on a national security event. In the event of multiple simultaneous attacks on infrastructure, the subcommittee would look at what FEMA's role would be in a similar situation.

Ms. Durkovich asked General Mark A. Milley, USA Retired, Joint Chiefs of Staff (former) to comment on the military's role during disasters. GEN (Ret) Milley said that the Pentagon has a set of plans to respond to natural disasters (e.g., hurricanes, floods, snowstorms, etc.) and man-made crises, such as a nuclear plant meltdown and/or terrorist and nation-state attacks. There are force lists and units specifically designated. He said the key is the first responders arriving on site quickly. Currently, he said 17,000 to 20,000 soldiers are on standby, or on Prepare to Deploy Order (PTDO). To deploy during a crisis, the President is briefed by the National Security Council and the Secretary of Defense, among others, who present the President with options. Following the Presidential orders, the Secretary of Defense would approve the orders, the Chair would issue the orders, and the military activates. GEN (Ret) Milley said this process happens every year during wildfires and other domestic crises. They can also deploy overseas, like when there was an Ebola outbreak. Because the military is so large, it comes with many of its own capabilities, like producing its own water, delivering massive amounts of food where needed, administering medical attention, and providing engineering expertise. GEN (Ret) Milley emphasized that the local authority must articulate the specific needs and requirements through FEMA so that the military can support them in the capacity needed.

Ms. Durkovich expressed the concern about facing a season with frequent hurricanes and wildfires while also under the threat of war. When faced with both, the civil authorities would become the secondary mission and the warfighting is the primary. Suddenly, much of the defense support is not available to help in disasters. GEN (Ret) Milley responded that the military is

capable of responding to multiple scenarios simultaneously, and he gave the example that while troops were in Iraq and Afghanistan, the military was also able to continue responding to wildfires domestically.

GEN (Ret) Milley requested a comprehensive document that prioritizes the list of infrastructure sectors in the case of an emergency. He said that while there are many lists of the sectors, none specify the prioritization order. He said that infrastructure must also be better defined in order to be prioritized. Mr. Natarajan responded that this will be addressed in NSM-22. He said that DHS and CISA, more specifically, has been tasked with identifying infrastructure with sole-source entities and how interdependencies are impacted. CISA is working with the Sector Risk Agency and the private sector to collaborate on the project. Mr. Natarajan said CISA's current prioritization of the sectors is based on risks from different scenarios, so having a prioritized list for all scenarios is difficult. In 6 to 7 months, the results of this project will be available.

Mr. Ogunlesi asked Dr. Beverly Scott, Beverly Scott & Associates, to speak on behalf of the Expanding Workforce Subcommittee. Dr. Scott, Subcommittee Co-Chair, thanked the subcommittee members and provided updates, including a list of topics the subcommittee was briefed on. The subcommittee is working on answering the questions stated in the NSC tasking with the backdrop of the 2021 *Workforce and Talent Management Study*. She expressed that while there have been tremendous amounts of work done in all levels of government, more is needed at the state and local level, in community colleges, and in communities of color.

Mr. Ray Daddazio, Thornton Tomasetti and Co-Chair of the Expanding Workforce Subcommittee, described the five themes emerging, which include the following:

1. Comprehensive support services/wraparound programs
2. Stakeholder coordination among education, government, and private entities
3. Updated educational curriculums
4. Diversity and inclusion
5. Access to advanced training

Ms. Durkovich asked for more clarification on what could be a catalyst for a technical school to make the necessary changes. She shared an experience visiting a rural community that had a need for skilled workers, but even after that need was expressed, the local community college did not develop courses to train workers in the fields with need. Mr. Daddazio said that the subcommittee saw some great examples of this, notably with Intel and Ohio community colleges. Intel partnered with community colleges in Ohio to have them develop a one-year certificate program for graduates to work for Intel. Graduates are guaranteed a good job with Intel after completing the program. Ms. Durkovich clarified that she was interested in more educational programs to develop workers in the civics field.

CLOSING REMARKS

Ms. Maria Lehman, GHD and NIAC Vice Chair, thanked the NIAC members and noted the increased and improved cadence this year. She remarked on the topic overlap between the subcommittees and encouraged continued resource-sharing. Mr. Ogunlesi thanked the

Transformer Production Subcommittee for their work in producing their practical recommendations. He then adjourned the meeting.

JUNE 11, 2024, NIAC MEETING PARTICIPANTS LIST

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Ms. Maria Lehman	GHD; American Society for Civil Engineers
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Mr. Joshua Descant	REV
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Ms. Connie Lau	Hawaiian Electric Industries (Former)
Dr. Norma Jean Mattei	University of New Orleans
GEN (Ret) Mark A. Milley	Joint Chiefs of Staff (Former)
Ms. Clara Lee Pratte	Strongbow Strategies
Mr. Gil Quiniones	ComEd
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Mr. William Rybczynski	Cybersecurity and Infrastructure Security Agency
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